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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,748	07/13/2001	Stephan Rosner	2000.066300/DE0031	3352

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EXAMINER

SHIN, CHRISTOPHER B

ART UNIT PAPER NUMBER

2182

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/904,748

Applicant(s)

ROSNER ET AL.

Examiner

Christopher B Shin

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference name is not labeled. For example, the reference numeral 2 should be also labeled as Main Memory. The same applies for the rest of the drawing reference numbers. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaraj et al. (5,805,842).

i. In figures 1-6 and the respective description sections, the Nagaraj reference teaches the claimed limitations as follows:

Claims 26-34

Nagaraj et al. (Figures 1-6)

- an apparatus for executing a write request over a PCI bus
 - feature of figures 2-3 systems over a PCI bus (220)
- queue for storing a write access request
 - obvious feature of column 3, lines 57-58
- device located on a PCI bus for storing data to be transferred
 - feature of (225 & 230)
- main memory for receiving said data
 - feature of (210)
- buffer memory for buffer storage of said data
 - feature of (340)
- whereby data transfer to said buffer memory is accomplished by a first DMA transfer

- feature of (340), column 5, lines 27-29
- data transfer from said buffer memory to said main memory is accomplished by a second DMA transfer
 - feature of (300, 310, 320, 360)
- finite state machine associated with said queue for selecting an access request
 - feature of (320, 340, 360, 370)
- time-variant access behavior for main memory second DMA transfer, buffer memory
 - feature of having using (320, 340, 360, 370)
- DMA initiated by said device
 - feature of (225 & 230)
- finite state machine is adapted to initiate a second DMA transfer
 - feature of (320, 340, 360, 370)
- second DMA transfer is initiated after said data transfer to said buffer memory is terminated
 - feature of column 5, lines 27-29
- said device and main memory are decoupled
 - feature of (210, 225 & 230)

ii. As for claims 26-34, the difference between the claimed invention and the teachings of the Nagaraj reference is that the reference does not expressly specify the DMA transfer as first and second DMA transfers; however, such difference is obvious from the teachings of the Nagaraj reference. As can be seen from the teaching of column 4, lines 20-23, of the Nagaraj reference, teaches the "DMA operation by splitting the operation into two PCI cycles; namely one memory cycle and one I/O cycle". Therefore, one having ordinary skill in the art can recognize the equivalent teachings of the broadly claimed "first" and "second DMA transfer". Therefore, it would have been obvious at the time the invention was made to one having ordinary skill in the art to come up with the invention from the teachings of the Nagaraj reference for the reasons stated above.

4. As for claims 1-9, 10-17 & 18-24, the above teachings of the claims 26-34 are respectively and similarly applied, due to the similarity between the respective claims.

5. **Any Response To This Action Should Be Mailed To:**

If The Action Is Non-Final

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 746-7239, (for formal communications intended for entry)

If The action is Final

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 746-7238, (for formal communications; please mark "EXPEDITED
PROCEDURE")

Hand-delivered responses should be brought to

Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any Other Telephone Communication Should Be Directed To

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Shin whose telephone number is (703) 305-9658. The examiner can normally be reached on Monday - Thursday from 7:00 AM to 4:00 PM.

Christopher B. Shin
September 3, 2003

Christopher B. Shin

PRIMARY EXAMINER

ART UNIT 2182

